



# NAVAL OCEANOGRAPHIC OFFICE

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## *Joint Airborne Lidar Bathymetry Technical Center of Expertise*

The Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX) is a partnership in airborne coastal mapping and charting among the U.S. Army Corps of Engineers (USACE), Commander, Naval Meteorology and Oceanography Command, the Naval Oceanographic Office (NAVOCEANO) and the National Oceanic and Atmospheric Administration (NOAA). The mission of JALBTCX is to provide airborne coastal surveying capability to the Army and Navy to meet operational requirements, to evolve light detection and ranging (lidar) and complementary technologies and to facilitate industry investment in the technology.

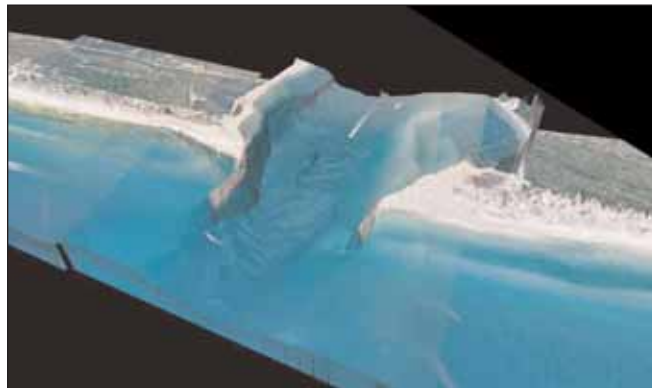
The partnership began operations in 1994 and in 1998 formally established JALBTCX. Since 1994 it has completed over 400 project surveys in 13 countries and produced a variety of new tools and uses for airborne lidar bathymetry.

The original Scanning Hydrographic Operational Airborne lidar Survey (SHOALS) system, owned by USACE and developed by Optech, Inc., Toronto, Canada, operated from 1994 to 2003, collecting surveys for JALBTCX. Over 7,000 flight hours were logged, producing about 2.5 billion soundings. These operations greatly advanced understanding of lidar technology, the physics of light propagation through water and the operational challenges and capabilities of high-resolution airborne lidar surveying. This knowledge and experience was applied to development of a new generation of sensor—the Compact Hydrographic Airborne Rapid Total Survey (CHARTS).

CHARTS, owned by NAVOCEANO and developed by Optech Inc., completed its acceptance testing in August 2003 and immediately began operations. The system conducts hydrographic surveying for the development of nautical charts for NAVOCEANO. CHARTS also supports the USACE national coastal measuring and monitoring program in the Atlantic, Pacific, Great Lakes and Gulf of Mexico.

In the spring of 2004 JALBTCX moved into its new building, constructed by the Hancock Port and Harbor Commission, at Stennis International Airport, in Hancock County, Miss.

The CHARTS system underwent a major upgrade in July 2005, which tripled its survey coverage rates



CHARTS imagery of Panama City, Fla.

and added the capability of a CASI-1500 hyperspectral imager to the aircraft.

In addition to worldwide operations, JALBTCX is evolving the technology by developing new tools to gather more information about our coasts from collected airborne data. Along with lidar data that very accurately measure the physical characteristics of the beach and nearshore coastal zone, JALBTCX is using additional airborne sensors to measure environmental conditions. Hyperspectral images are being fused with lidar elevations through state-of-the-art computer programs that automatically characterize environmental features, such as wetlands, seagrass beds, sands and corals.

Through the leadership of JALBTCX, U.S. industry has taken notice of these new capabilities in coastal mapping and charting and the commercial potential. This has directly led to several new companies locating at Stennis Space Center to leverage and support these efforts.

For more information on JALBTCX, please contact Mr. W. Jeff Lillycrop (251.694.3721) or Mr. Robert W. Pope (228.688.5816).

*For more information about NAVOCEANO, please contact NAVOCEANO Public Affairs at 228.688.5649 or visit <https://www.navo.navy.mil>.*